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(54) **MICROFLUIDIC PUMP AND VALVE
STRUCTURES AND FABRICATION
METHODS**

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See application file for complete search history.

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(57) **ABSTRACT**

Plastic microfluidic structures having a substantially rigid
diaphragm that actuates between a relaxed state wherein the
diaphragm sits against the surface of a substrate and an
actuated state wherein the diaphragm is moved away from
the substrate. As will be seen from the following description,
the microfluidic structures formed with this diaphragm pro-
vide easy to manufacture and robust systems, as well readily
made components such as valves and pumps.

8 Claims, 23 Drawing Sheets

